

What is claimed is as follows:

1. A stent comprised of a tube form body having a body wall structure of a geometric pattern of cells defined by wire extending throughout the body portion and defining the cell pattern as a plurality of spaced sections of interconnected cells
5 which in plan view are of polygonal configuration, each of the spaced sections being connected to each other by straight sections of the wire, the straight sections being longitudinally aligned with respect to the longitudinal dimension of the stent body.
2. The stent of claim 1 wherein the straight sections are comprised of at least one pair of adjoining wires.
- 10 3. The stent of claim 1 including two connecting straight sections of the wire, the two being circumferentially spaced apart by about 180°.
4. The stent of claim 1 including three connecting straight sections of the wire, the three being circumferentially spaced apart by about 120°.
5. The stent of claim 1 in which the wire is of a nitinol alloy.
- 15 6. The stent of claim 1 in which the polygonal configuration is hexagonal.
7. The stent of claim 1 wherein the straight sections are disposed at an angle relative to the longitudinal axis of the stent.
8. The stent of claim 1 including a covering sleeve.
9. The stent of claim 1 wherein the wire connecting the spaced sections
20 extends continuously throughout the longitudinal length of the stent.
10. The stent of claim 9 including a plurality of continuous connecting wires.
11. The stent of claim 1 in which the cells are of a hexagonal configuration.
- 25 12. The stent of claim 11 in which at least some of the cells include two adjacent inverted sides which receive a connecting wire.
13. In a stent comprising a wire skeletal frame, said frame being adapted to assume a first condition in which said frame is expanded, relatively rigid, and substantially tubular in configuration, and being further adapted to assume a second
30 condition in which said frame is flexible, of reduced stress, and collapsible, said wire frame comprised of a metallic compound of nickel and titanium, said compound in said second condition indefinitely retaining said flexibility and said reduced stress and

retaining memory of said first condition, said wire frame upon heating to a selected temperature, assuming said first condition in which said frame is greatly expanded relative to said second condition and assuming said rigidity, such that in said second condition walls of said frame are adapted to be positioned in their collapsed

5 disposition, and further adapted to be dispositioned against each other to form a stent diameter substantially equal to the combined thickness of the frame walls in abutting engagement with each other, and further adapted to be configured between said expanded disposition and said walls abutting disposition, said frame in said second condition being substantially devoid of bias therein urging said frame to assume said
10 first configuration when exposed to the selected temperature, said skeletal frame comprising wire, round in cross-section, said frame including straight axially-extending portions of said wire joined together along the lengths of said straight axially-extending portions and circumferentially side by side, wherein in said substantially tubular configuration said frame includes a substantially tubular body
15 portion, the improvement comprising said body portion being defined by a plurality of spaced sections each of which is comprised of a group cells which in plan view are of polygonal configuration, each section being connected to an adjacent section by straight sections of wire, the straight adjacent sections being longitudinally aligned with respect to the longitudinal dimension of the stent body.

20 14. The stent of claim 13 in which the selected temperature is normal human body temperature, whereby the frame is adapted to assume the first configuration automatically upon exposure to human body temperature.

15 15. The stent of claim 13 in which the cells are of a hexagonal configuration.

25 16. The stent of claim 13 including two connecting pairs of straight sections of the wire, the two pairs being circumferentially spaced apart by about 180°.

17. The stent of claim 13 including three connecting pairs of straight sections of the wire, the three pairs being circumferentially spaced apart by about
30 120°.

18. The stent of claim 13 wherein the straight sections are comprised of at least one pair of adjoining wires.

19. The stent of claim 13 where the straight sections are disposed at an angle relative to the longitudinal axis of the stent.

20. The stent of claim 13 including a covering sleeve.